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A New Anacanthobatid Skate of the Genus *Springeria* from the South China Sea*

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During the past two years in the course of the fishery survey programs conducted by the Fisheries Research Station of the Agriculture and Fisheries Department (formerly known as the Co-operative Development & Fisheries Department) of the Hong Kong Government, the RV/Cape St. Mary has fished the Continental Shelf in the northern part of the South China Sea. In addition to the numerous trawl hauls made in shallow grounds where commercial fish species occur, a series of "deep" stations have been made with AGASSIZ nets. During Cruise 1/64 early in 1964, a number of deep-sea fishes were collected off the edge of the Continental Shelf in depths from 314 to 530 fathoms. Among these fishes is an anacanthobatid skate, which has been confirmed as a new species of the currently monotypic genus *Springeria* BIGELOW and SCHROEDER (1951). With the discovery of this new skate, the family Anacanthobatidae is now represented by two genera and five species, and its distribution has become world-wide.

To facilitate comparison the present species is described following the plan and sequence of presentation of proportional and descriptive characters used in BIGELOW and SCHROEDER (1951), Methods of taking measurements have also been adopted from these authors.

Springeria melanosoma, new species

Figs. 1 and 2

Holotype.—USNM 198121, a young female, 121.7 mm in total length, taken by the RV/Cape St. Mary of the Fisheries Research Station, Hong Kong, during Cruise 1/64 at Sta. 28: South China Sea, about 170 miles south of Hong Kong at Lat. 19°20′N-Long. 114°16′E (being terminating position of AGASSIZ trawl) in 500-530 fathoms over (probably) sandy bottom.

Diagnosis.—An anacanthobatid with the snout terminally expanded (fig. 1), and with the outer margin of the posterior lobe of the pelvic fin joined for half its length to the inner margin of the pectoral. It is distinguished from the other species of the genus, *folirostris*, by having the following combination of characters: a blackish to blackish-brown colour; a broad anterior portion of the disc forming an angle of 118°;

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a short terminal filament which is only one-tenth the preorbital distance; a small terminal expansion of the snout; a wide interorbital distance, about 5% of the total length; jaws straight, with a skin fold directing forward from the end of the mandible (fig. 2A).

Description of holotype. (proportional dimensions in percent of total length).—*Disc*: extreme breadth 49, length 48. *Snout length*: in front of orbits 17, in front of mouth 19. *Orbits*: horizontal diameter 1, interorbital distance 5. *Spiracles*: length 1, distance between them 6. *Mouth*: breadth 5. *Nostrils*: distance between inner ends 4. *Gill openings*: length of first 0.7, third 0.7, and fifth 0.5; distance between inner ends of first 10, and fifth 5. *Caudal fin*: length of base of upper lobe 7, lower lobe 5. *Pelvics*: anterior margin 6.

Disc from the base of terminal filament 1.3 times as long as broad; maximum anterior angle from the level of the base of terminal expansion of snout to the level of spiracles 118°. End of snout with a small expansion, terminating in a short, slender filament (fig. 1) which is 4.8 times as great as interorbital width. Edge of disc broadly rounded posteriorly, while anteriorly near the base of the expansion smoothly and slightly convex.

Tail slender, slightly compressed dorsoventrally in the anterior portion, becoming somewhat rounded in the mid-portion and slightly compressed in the distal portion; its width at the axis of pelvics 1.5 times as great as eye diameter; its length from the middle of cloaca to its tip 1.5 times the distance from the middle of cloaca to the base of terminal expansion of the snout.

Dorsally skin of disc and pelvics completely devoid of thorn-like denticles, but with numerous minute sensory pores and fleshy tube-like sensory openings; ventrally skin of disc completely devoid of denticles, but with sensory pores. Mediodorsally tail with a row of six minute thorn-like denticles, while a row of sensory pores present laterally on each side of the tail.

Length of snout from the front of eye to the base of terminal filament 2.7 times as great as the distance between eyes, while its length from the front of mouth 5.2 times as great as the distance between the exposed nostrils.

Distance between orbits 1.9 times as long as the length of the orbit which is 2.5 times as long as the length of spiracle.

Nasal curtain fringed with 13 lobelets on each side; outer margin of nostril with a raised fleshy flap.

Mouth straight, corners of its mandible smoothly arched forward as indicated by the presence of a skinfold (fig. 2A).

Teeth in each jaw in 14 obliquely transverse rows, each of which with three or four teeth; each tooth with a roundish base and a somewhat pointed tip.

Gill openings minute, the first about one-seventh as long as the breadth of mouth, the fifth about three-fourths as long as the first; distance between the inner ends of the first gills 2.6 times, and that between the fifth gills 1.5 times as long as the

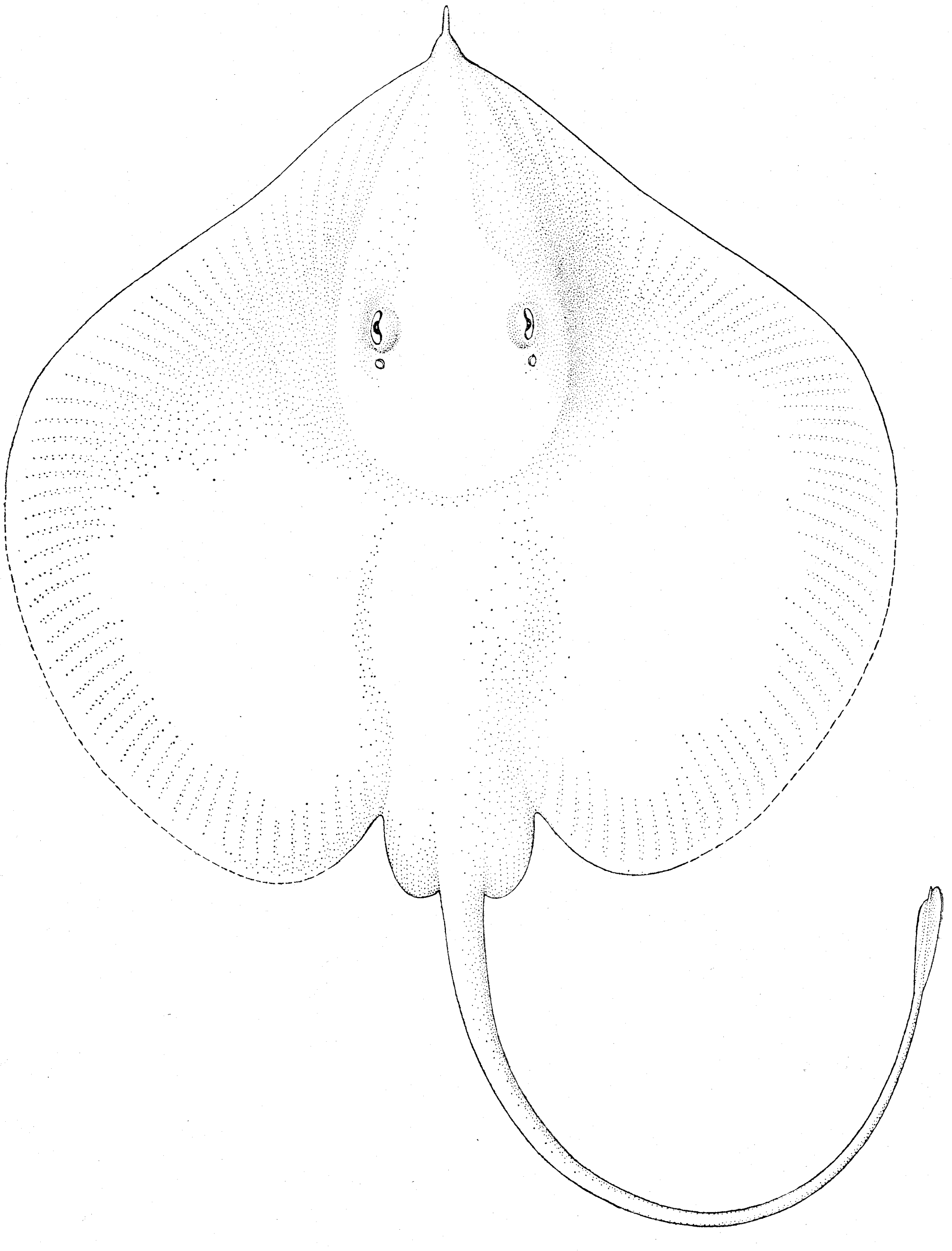

Fig. 1a. *Springeria melanosoma*, holotype, female, USNM 198121, 121.7 mm in total length.

distance between the exposed nostrils.

Dorsal fin absent. Base of the upper caudal fin-membrane 1.8 times as long as the distance between the exposed nostrils, and its maximum width one-eleventh of the length of its base; lower caudal fin-membrane three-fourths the width of the

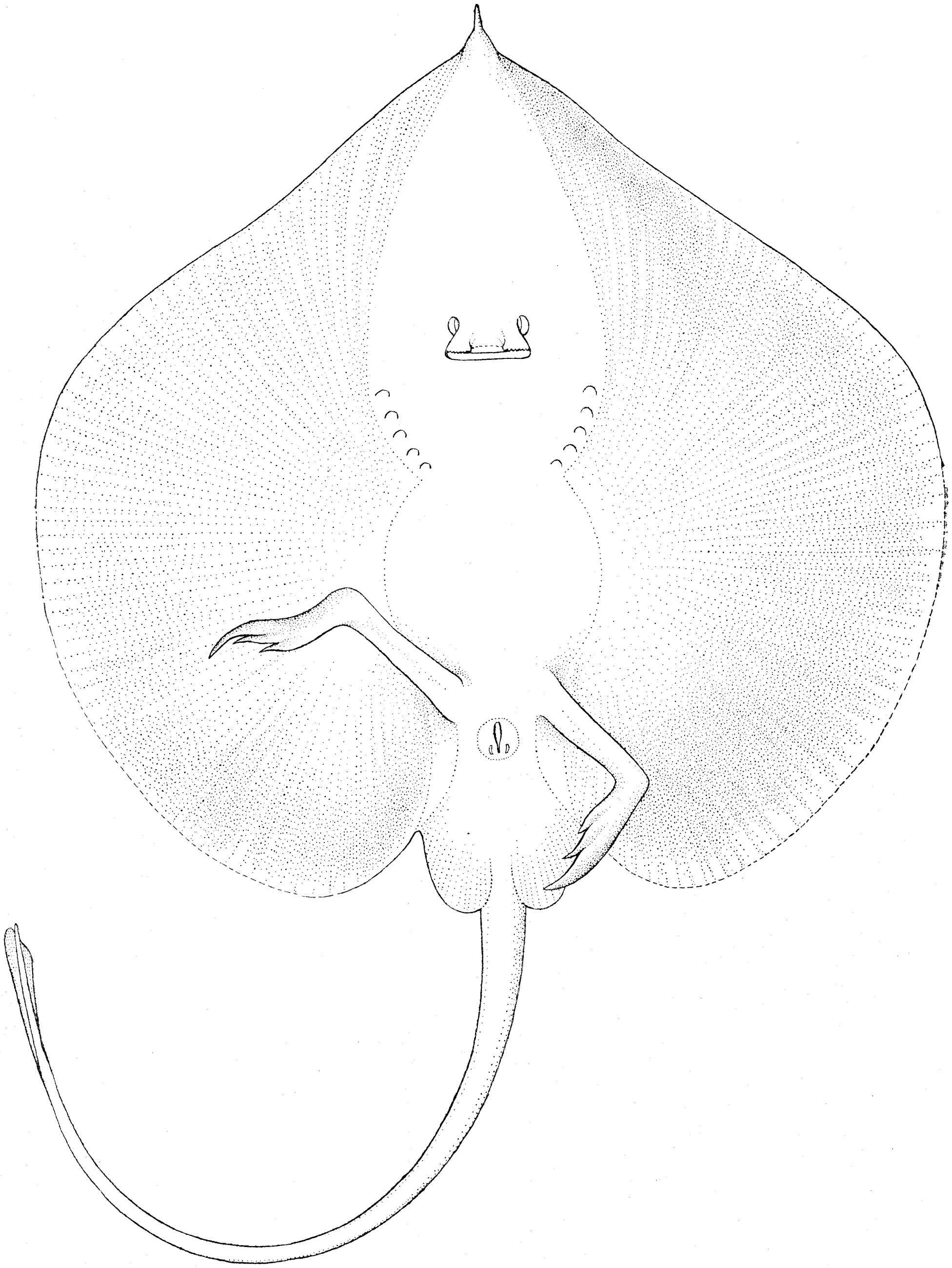

Fig. 1b. Ventral view of holotype.

upper, its origin a little behind that of the upper; the two caudal lobes discontinuous, with the tip of tail slightly protruding beyond their hind margins.

Anterior leg-like subdivision about two-thirds as long as the length of pelvic fin; this leg-like appendage compressed, fleshy, with one articulation about midway its

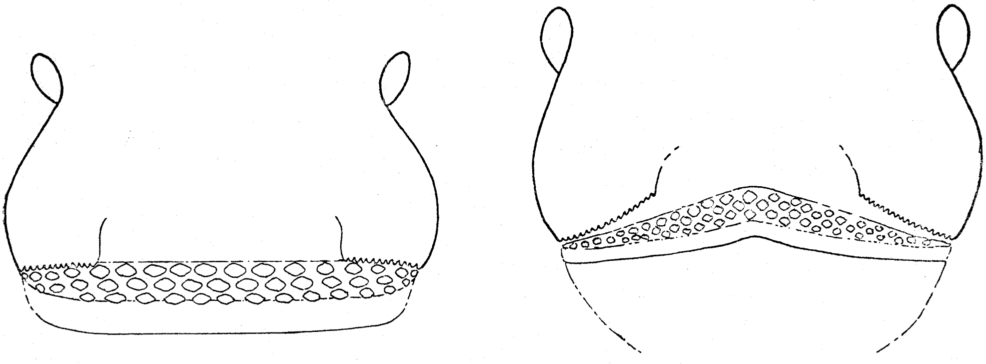

Fig. 2. Nasal curtain and mouth. A. *Springeria melanosoma*, holotype. B. *S. folirostris* BIGELOW and SCHROEDER, from the Gulf of Mexico.

length, and with an inner edge of the terminal segment scalloped, corresponding to the tips of three radial cartilages. Posterior lobe of pelvic with a rounded edge extending slightly beyond the hind edge of the disc; outer margin of the pelvic joined for half its length to the inner margin of the pectoral, while the inner margin joined almost to the tip with the side of the caudal.

Colour: Disc dorsally blackish to blackish-brown; ventrally disc blackish-brown around the edge and in the preoral area, Area around orbits and spiracles blackish; pupil translucent (greenish when alive). Mouth pale. Leg-like appendage of the pelvic pale. Tail brownish dorsally, pale ventrally. Sensory pores, as well as the tube-like sensory openings, whitish.

Remarks.—The holotype of *melanosoma* has been found to possess six minute denticles along the anterior mediodorsal portion of the tail. On examination of the smallest (117 mm in total length) of a series of five specimens of *folirostris*, these denticles have also been found present. Although these are absent in the other four specimens varying from 212 to 328 mm in total length, the mediodorsal portion of the anterior part of the tail in the 212 mm specimen is marked by a series of pale areas, each of which suggests that a denticle has once been present. If this is the case, *folirostris* would appear to have denticles only in its juvenile stage, and it would be reasonable to assume that this is true also of *melanosoma*. This suggests a close phylogenetic relationship with the Rajidae skates in which spinules or denticles on the disc and tail are typical.

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